Electronic Supplementary Material (ESI) for Journal of Materials Chemistry B.

Nanoscale Inorganic Coating Strategy for Stabilizing Hydrogel Neural Probes in vivo

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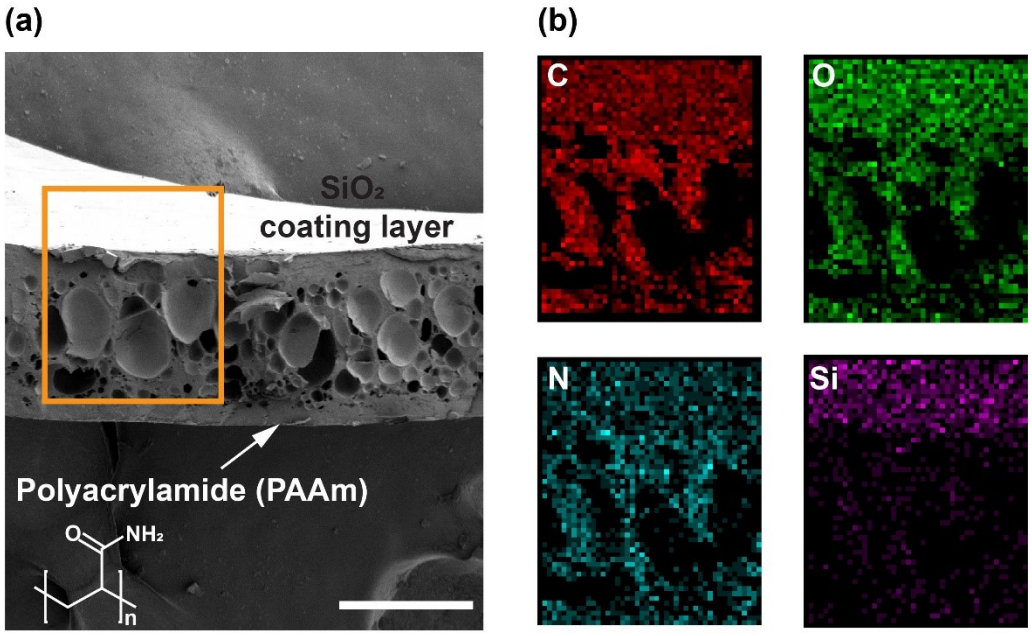
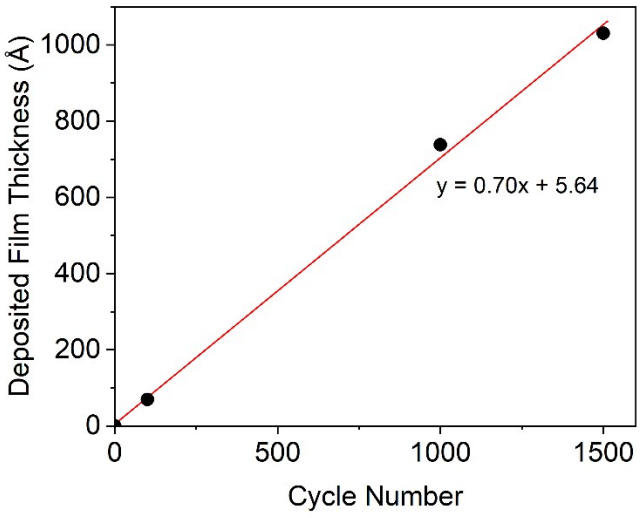
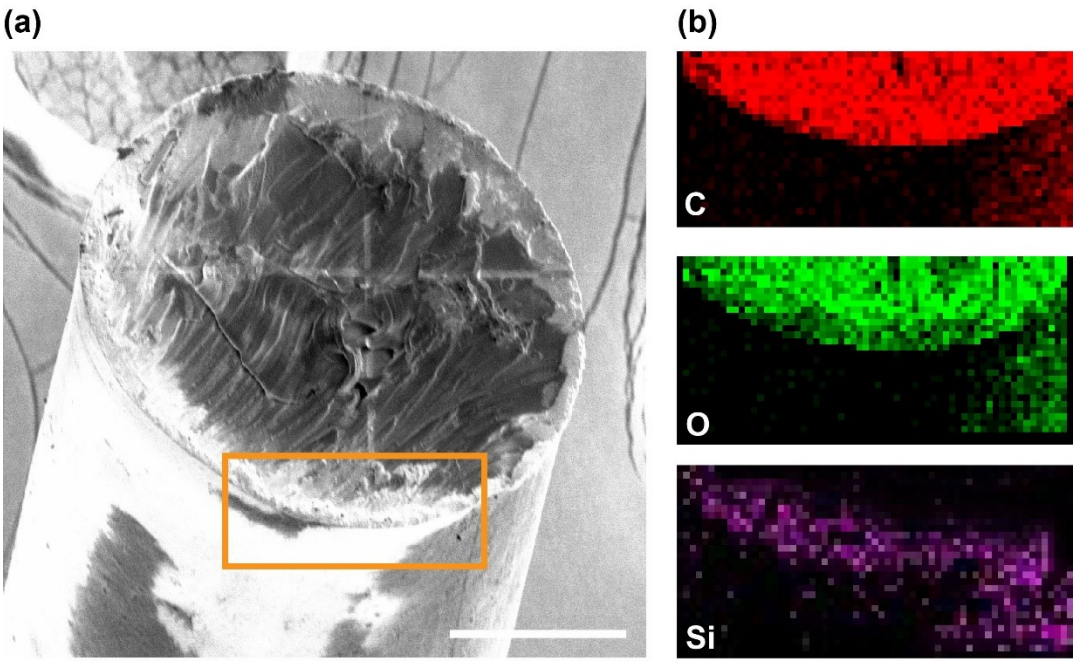
Supplementray figures



Supplementary Fig. 1 (a) Scanning electron microscopy (SEM) image at the cross-section of a chemically cross-linked Polyacrylamide (PAAm, 50 wt. %) hydrogel thin film. A SiO_2 layer was deposited on top of the PAAm thin film through the atomic layer deposition (ALD) process. Inset: chemical formula of PAAm. Scale: 200 μm; (b) energy-dispersive X-ray spectroscopy (EDX) element mapping in the selected area (yellow box).



Supplementary Fig. 2 Linear relationship between SiO_2 coating (deposited on Si substrates) thickness and ALD cycle numbers (R^2=0.9978, 1 cycle=0.8 min).

1 

2 **Supplementary Fig. 3** (a) Scanning electron microscopy (SEM) image at the cross-section of a
3 SiO_2-coated PVA hydrogel fiber after incubating in hydrochloric acid (HCl) solution (pH=4) at 45
4 ^oC for one week; (b) energy-dispersive X-ray spectroscopy (EDX) element distribution in the
5 selected area (yellow box).

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